CLAIMS

What is claimed is:

1. A vaso-occlusive device comprising at least one substantially linear strand of a vaso-occlusive member wound into a stable, three-dimensional relaxed configuration comprising a plurality of non-overlapping loops, wherein said relaxed configuration self-forms upon release from a restraining member.

2. The vaso-occlusive device of claim 1, wherein the relaxed configuration fills a body cavity.

3. The vaso-occlusive device of claim 1, wherein the relaxed configuration approximates a sphere.

4. The vaso-occlusive device of claim 1, comprising between 6 and 20 loops.

5. The vaso-occlusive device of claim 1, comprising between 6 and 12 loops.

6. The vaso-occlusive device of claim 1, wherein the vaso-occlusive member comprises a metal selected from the group consisting of platinum, palladium, rhodium, gold, tungsten and alloys thereof.

7. The vaso-occlusive device of claim 1, wherein the vaso-occlusive member comprises a stainless steel or super-elastic metal alloy.

8. The vaso-occlusive device of claim 1, wherein the vaso-occlusive member comprises nitinol.

9. The vaso-occlusive device of claim 1, further comprising additional filamentary material attached to the vaso-occlusive member.

10. The vaso-occlusive device of claim 1, further comprising a deployment tip attached to at least one of the two ends of the vaso-occlusive member.

11. The vaso-occlusive device of claim 10, wherein the deployment tip comprises a mechanically detachable end adapted to attach and detach from a pusher.

12. The vaso-occlusive device of claim 10, wherein the deployment tip comprises an electrolytically detachable end adapted to detach from a pusher by imposition of a current on the pusher.

13. A method of occluding a body cavity comprising introducing a vaso-occlusive device according to claim 1 into the body cavity.

14. The method of claim 13, wherein the body cavity is an aneurysm.

15. A method of making a non-overlapping three-dimensional vaso-occlusive device according to claim 1, the method comprising

(a) winding a substantially linear strand of a vaso-occlusive member around a winding mandrel, said winding comprising a winding pattern that produces a non-overlapping three-dimensional vaso-occlusive device according to claim 1; and

(b) heating the mandrel and vaso-occlusive member to produce said vaso-occlusive device.

16. The method of claim 15, wherein the winding pattern is a Figure 8 or hourglass.

17. The method of claim 15, wherein the winding mandrel comprises a sphere having grooves adapted to fit the substantially linear strand.

18. The method of claim 15, wherein the winding mandrel comprises a cylinder.

19. The method of claim 15, wherein the winding mandrel comprises a sphere having a plurality of pins on the surface thereof.

20. The method of claim 15, wherein the winding mandrel comprises a tetrahedron.

21. The method of claim 15, wherein the winding mandrel comprises 3 intersecting posts which form a 6 post structure and wherein each post is at approximately 90 relative to the adjacent posts.

22. The method of claim 21, wherein at least one post has a round cross section.

23. The method of claim 21, wherein each post has a round cross section.